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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/501,910	07/20/2004	Young-Nam Hwang	3254-0121PUS1	8720

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EXAMINER	
PIZIALI, ANDREW T	

ART UNIT	PAPER NUMBER
1771	

DATE MAILED: 03/28/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/501,910	HWANG ET AL.	
	Examiner	Art Unit	
	Andrew T. Piziali	1771	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *20 July 2004*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-18* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-18* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *20 July 2004* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *7/20/2004*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 1-18 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. It is not clear what constitutes an "excellent softness." It is also not clear what constitutes a "low elongation."

Claim Rejections - 35 USC § 102/103

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. Claims 1-5, 9-11, 13-15 and 17-18 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over USPN 4,145,468 to Mizoguchi et al. (hereinafter referred to as Mizoguchi).

Regarding claims 1-5, 9-11, 13-15 and 17-18, Mizoguchi discloses a composite sheet for artificial leather comprising: a non-woven fabric layer (1) made of ultra fine fibers having a fineness less than 0.3 denier; a woven or knitted fabric layer (2) constructed from a yarn made of ultra fine fibers having a fineness less than 3 denier; and polyurethane resin, wherein the ultra fine fibers of the non-woven fabric layer (1) and the ultra fine fibers of the woven or knitted fabric layer (2) are entangled with each other (see entire document including column 1, lines 6-13, column 2, lines 30-61, the paragraph bridging columns 6 and 7, column 8, lines 44-57, and column 10, lines 46-52).

Considering that Mizoguchi discloses that the ultra fine fibers of the woven or knitted fabric layer may be less than 3 denier (column 8, lines 44-457), and considering that the applicant claims ultra fine fibers of the woven or knitted fabric layer of less than 0.3 denier, it appears that Mizoguchi teaches the claimed denier with sufficient specificity. In the event that it is shown that Mizoguchi does not teach the claimed denier with sufficient specificity, it would have been obvious to one having ordinary skill in the art at the time the invention was made to vary the denier of the ultra fine fibers to less than 0.3 denier, because it is understood by one of ordinary skill in the art that the denier determines properties such stiffness and softness and because it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art.

Regarding claims 2, 14 and 18, Mizoguchi discloses that the ultra fine fibers on the surface of the composite sheet may be raised (column 10, lines 24-40).

Regarding claim 3, Mizoguchi discloses that the fineness of the ultra fine fibers of the woven or knitted fabric layer may be less than 3 denier (column 8, lines 44-57).

Regarding claim 4, Mizoguchi discloses that the yarn constituting the woven or knitted fabric layer may be constructed of between 200 and 10,000 ultra fine fibers (column 8, lines 40-57).

Regarding claim 5, Mizoguchi discloses that the total denier of the yarn constituting the woven or knitted fabric layer may be 10 to 70 denier (column 8, lines 40-43).

Regarding claim 9, Mizoguchi discloses that the yarn constituting the woven or knitted fabric layer may be a continuous filament yarn (see Figures).

Regarding claim 10, Mizoguchi discloses that the yarn constituting the woven or knitted fabric layer may be a polyester based resin or nylon based resin (column 7, lines 36-60).

Regarding claim 11, Mizoguchi discloses that the weight of the woven or knitted fabric layer may be 10 to 100 g/m^2 (column 8, lines 11-27).

Regarding claims 13-15, Mizoguchi discloses that fineness of the ultra fine fibers of the woven or knitted fabric layer may be the same as the fineness of the ultra fine fibers of the nonwoven fabric layer (paragraph bridging columns 6 and 7 and column 8, lines 44-57).

Regarding claim 15, Mizoguchi discloses that the proportion by weight of the woven or knitted fabric to the nonwoven fabric may be 60% or less (column 9, lines 28-40).

Regarding claims 17 and 18, considering that the composite sheet disclosed by Mizoguchi is identical to the claimed composite in structure, fiber denier, fiber material, and resin material, it appears that the composite would inherently possess the claimed properties.

The Patent and Trademark Office can require applicants to prove that prior art products do not necessarily or inherently possess characteristics of claimed products where claimed and prior art products are identical or substantially identical, or are produced by identical or

substantially identical processes; burden of proof is on applicants where rejection based on inherency under 35 U.S.C. § 102 or on prima facie obviousness under 35 U.S.C. § 103, jointly or alternatively, and Patent and Trademark Office's inability to manufacture products or to obtain and compare prior art products evidences fairness of this rejection, *In re Best, Bolton, and Shaw*, 195 USPQ 431 (CCPA 1977).

Claim Rejections - 35 USC § 103

6. Claims 6-9, 12 and 16-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over USPN 4,145,468 to Mizoguchi as applied to claims 1-5, 9-11, 13-15 and 17-18 above, and further in view of USPN 5,256,429 to Honda et al. (hereinafter referred to as Honda).

Regarding claims 6-8, Mizoguchi does not appear to specifically mention using twist yarns for the woven or knitted fabric layer, but Honda discloses that it is known in the artificial leather composite art to use twisted yarn (700 to 4,000 twists/m) in a woven or knitted fabric layer to prevent the yarns from being cut when entangled with nonwoven layer yarns (see entire document including column 2, lines 17-39). It would have been obvious to one having ordinary skill in the art at the time the invention was made to make the woven or knitted fabric layer fibers in twisted form, as taught by Honda, because the woven or knitted fabric layer yarns would resist being cut when entangled with the nonwoven layer yarns.

Regarding claim 9, Mizoguchi discloses that the yarn constituting the woven or knitted fabric layer may be a continuous filament yarn (see Figures), but Mizoguchi does not appear to mention staple spun yarn. Honda discloses that it is known in the artificial leather composite art to use staple spun yarn in the woven or knitted fabric layer (see entire document including

column 2, lines 40-43). It would have been obvious to one having ordinary skill in the art at the time the invention was made to make the woven or knitted fabric yarns in any suitable form, such as staple spun yarns or continuous filament yarns, because it is within the general skill of a worker in the art to select a known filament on the basis of its suitability and desired characteristics.

Regarding claim 12, Mizoguchi appears to be silent with regards to specific warp and weft yarns/inch densities, therefore, it would have been necessary and thus obvious to look to the prior art for conventional densities. Honda provides this conventional teaching showing that it is known in the art to use warp and weft densities of more than 60yarns/inch (column 3, lines 30-38). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to make the warp and weft yarn densities 60 or more motivated by the expectation of successfully practicing the invention of Mizoguchi.

Regarding claim 16, Mizoguchi appears to be silent with regards to the weight ratio of the ultra fine fibers to the resin, therefore, it would have been necessary and thus obvious to look to the prior art for conventional ratios. Honda provides this conventional teaching showing that it is known in the art to a binder in an amount of 7 to 50% based on the weight of the fibers in the product (column 5, lines 44-48). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to use a binder in an amount of 7 to 50% based on the weight of the fibers in the product, motivated by the expectation of successfully practicing the invention of Mizoguchi.

Regarding claims 17 and 18, considering that the composite sheet disclosed by the applied prior art is identical to the claimed composite in structure, fiber denier, fiber material, and resin material, it appears that the composite would inherently possess the claimed properties.

Regarding claim 18, Mizoguchi discloses that the ultra fine fibers on the surface of the composite sheet may be raised (column 10, lines 24-40).

7. Claims 6-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over USPN 4,145,468 to Mizoguchi as applied to claims 1-5, 9-11, 13-15 and 17-18 above, and further in view of USPN 6,780,469 to Iijima.

Regarding claims 6-8, Mizoguchi does not appear to specifically mention using twist yarns for the woven or knitted fabric layer, but Iijima discloses that it is known in the artificial leather composite art to use twisted yarn (500 to 4,500 twists/m) in a woven or knitted fabric layer to prevent the yarns from being cut when entangled with nonwoven layer yarns (see entire document including column 8, lines 48-64). It would have been obvious to one having ordinary skill in the art at the time the invention was made to make the woven or knitted fabric layer fibers in twisted form, as taught by Iijima, because the woven or knitted fabric layer yarns would resist being cut when entangled with the nonwoven layer yarns.

Regarding claim 9, Mizoguchi discloses that the yarn constituting the woven or knitted fabric layer may be a continuous filament yarn (see Figures), but Mizoguchi does not appear to mention staple spun yarn. Iijima discloses that it is known in the artificial leather composite art to use staple spun yarn in the woven or knitted fabric layer (see entire document including column 8, lines 38-41). It would have been obvious to one having ordinary skill in the art at the time the invention was made to make the woven or knitted fabric yarns in any suitable form,

such as staple spun yarns or continuous filament yarns, because it is within the general skill of a worker in the art to select a known filament on the basis of its suitability and desired characteristics.

8. Claims 1-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over USPN 5,256,429 to Honda in view of USPN 4,145,468 to Mizoguchi.

Regarding claims 1-18, Honda discloses a composite sheet for artificial leather comprising: a non-woven fabric layer (1) made of ultra fine fibers having a fineness less than 0.3 denier; a woven or knitted fabric layer (2) constructed from a yarn; and polyurethane resin, wherein the ultra fine fibers of the non-woven fabric layer (1) and the fibers of the woven or knitted fabric layer (2) are entangled with each other (see entire document including column 1, lines 13-17 and 56-63, column 3, lines 52-62, column 4, lines 38-44, and column 5, lines 59-64).

Example 1 of Honda includes woven fibers of about 2 denier, but Honda does not appear to mention a specific fiber denier range for the fibers of the woven or knitted fabric layer. Mizoguchi discloses that it is known in the artificial leather composite art to use woven or knitted fibers with a denier of 3 or less (column 8, lines 40-57). It would have been obvious to one having ordinary skill in the art at the time the invention was made to make the woven or knitted fibers in any suitable denier, such as 0.01 to 0.3 denier, because it is within the general skill of a worker in the art to select a known denier on the basis of its suitability and desired characteristics such as stiffness and softness.

Regarding claims 2, 14 and 18, Honda discloses that the ultra fine fibers on the surface of the composite sheet may be raised (column 5, lines 59-64).

Regarding claims 4 and 5, Honda discloses that the yarn constituting the woven or knitted fabric layer may be constructed of between 200 and 10,000 ultra fine fibers because Honda discloses that the total thickness of the yarns may be 30 to 300 denier (column 3, lines 23-29).

Regarding claims 6-8, Honda discloses that the number of twists of the yarn constituting the woven or knitted fabric may be 700 to 4000 twists/yarn (column 2, lines 17-39).

Regarding claim 9, Honda discloses the yarn constituting the woven or knitted fabric layer may be continuous or staple spun yarn (column 2, lines 40-43).

Regarding claim 10, Honda discloses that the yarn constituting the woven or knitted fabric layer may be a polyester based resin or nylon based resin (column 3, lines 39-45).

Regarding claim 11, Honda discloses that the weight of the woven or knitted fabric layer may be 20 to 200 g/m^2 (column 2, lines 44-53).

Regarding claim 12, Honda discloses that the warp and weft densities of the woven or knitted fabric layer may be more than 60 yarns/inch (column 3, lines 30-38).

Regarding claims 13-16, Mizoguchi discloses that it is known in the artificial leather composite art to use woven or knitted fibers with a denier of 3 or less (column 8, lines 40-57) while Honda teaches nonwoven fibers with a denier of 0.8 or less (column 3, lines 52-62). Therefore, the prior art in combination teaches that the woven or knitted fibers may have the same fineness as the nonwoven fibers.

Regarding claim 15, Honda discloses that the ratio of the woven or knitted fabric/nonwoven fabric may be less than 70/100, more preferably 10 to 50/100 (column 3, lines 46-51).

Regarding claim 16, Honda discloses that the amount of binder may be 7 to 50% based on the weight of the fibers in the product (column 5, lines 44-48).

Regarding claims 17 and 18, considering that the composite sheet disclosed by the applied art is identical to the claimed composite in structure, fiber denier, fiber material, and resin material, it appears that the composite would inherently possess the claimed properties.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Andrew T. Piziali whose telephone number is (571) 272-1541. The examiner can normally be reached on Monday-Friday (8:00-4:30).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Terrel Morris can be reached on (571) 272-1478. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

atp

3/17/06

ANDREW T. PIZIALI
PATENT EXAMINER